

Name: \_\_\_\_\_

### pa1106: Factoring with box when $a = \text{prime}$ (v2)

#### Example

Use the box to factor  $2x^2 - 9x - 18$ .

Guess and check, based on factor pairs of  $-18$ , until you find the pair that results in a linear coefficient of  $-9$  after combining like terms.

*	x	-6
2x	$2x^2$	$-12x$
3	3x	-18

$2x^2 - 12x + 3x - 18$

Combine like terms.

$2x^2 - 9x - 18$

ANSWER:  $(2x + 3)(x - 6)$

#### Question 1

Use the box to factor  $3x^2 + 26x + 16$ .

*	x	8
3x	$3x^2$	$24x$
2	2x	16

ANSWER:  $(3x + 2)(x + 8)$

### Question 2

Use the box to factor  $7x^2 - 19x - 6$ .

*	x	-3
7x	$7x^2$	$-21x$
2	2x	-6

ANSWER:  $(7x + 2)(x - 3)$

### Question 3

Use the box to factor  $5x^2 - 14x + 8$ .

*	x	-2
5x	$5x^2$	$-10x$
-4	-4x	8

ANSWER:  $(5x - 4)(x - 2)$